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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,066	06/29/2000	Glen D. Stone	50N3534/1434	7290

7590 01/22/2004

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EXAMINER	
NGUYEN, BRIAN D	
ART UNIT	**PAPER NUMBER**
2661	7

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/607,066	STONE ET AL.	
	Examiner	Art Unit	
	Brian D Nguyen	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *the amendment filed 12/19/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 5 and 25 are objected to because of the following informalities:

Claim 5 and 25, "an IEEE 1394 serial bus standard" is unclear what version of IEEE 1394 the applicant is referring to. It is suggested to delete "serial bus standard".

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-17, 21-37, and 41-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abramson et al (6,192,428) in view of Kwon et al (6,667,987).

Regarding claims 1-2 and 5, Abramson discloses a system (100) for implementing an electronic device comprising a transmission source configured to provide priority information include isochronous data (see 225 of figure 2; col. 3, line 44) for use by the device; a memory device for storing priority information (see abstract; 225 of figure 2); and a processor for utilizing the priority information (see 105 & 120 of figure 1; 225 of figure 2; col. 3, lines 34-49). Abramson does not specifically disclose the memory being reconfigurable into separate memory channel that are each mapped to a different process. However, it is well known in the art that a system that support IEEE 1394 will provide up to 64 channels for isochronous data transfer. Abramson system does support 1394 serial bus (see 155 of figure 2). Kwon discloses a system

using IEEE 1394 with separate memory channels (see abstract and figure 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to reconfigure into separate memory channels as taught by Kwon in the system of Abramson so that information from different devices can be processed at the same time.

Regarding claims 3-4, Abramson discloses the processor coupled to the devices (150, 160) through 1394 serial bus (see 155 of figure 2).

Regarding claim 6, Abramson disclose a system (100) for implementing an electronic device comprising a transmission source configured to provide priority information for use by the device include isochronous data for performing a time-sensitive isochronous process (see 225 of figure 2; col. 3, line 44); a memory device coupled to the transmission source and configured for storing priority information (see abstract; 225 of figure 2), the memory device including an isochronous memory (225 of figure 2 and 320 of figure 3) that is reserved for storing only the isochronous data, the isochronous memory being inaccessible to any non-isochronous memory (asynchronous data for example) for storing non-isochronous data; and a processor coupled to the memory device for utilizing the priority information from the memory device (see 105 & 120 of figure 1; 225 of figure 2; col. 3, lines 34-49). Abramson does not specifically disclose the memory being reconfigurable into separate memory channel that are each mapped to a different process. However, it is well known in the art that a system that support IEEE 1394 will provide up to 64 channels for isochronous data transfer. Abramson system does support 1394 serial bus (see 155 of figure 2). Kwon discloses a system using IEEE 1394 with separate memory channels (see abstract and figure 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to reconfigure into separate memory channels as

taught by Kwon in the system of Abramson so that information from different devices can be processed at the same time.

Regarding claim 7, Abramson discloses the isochronous memory (225, 230) including a memory controller (320), channels (1394 channels), and memory registers (325; 330).

Regarding claims 8 and 9 Abramson discloses fields in the registers (see col. 4, lines 37-48).

Regarding claims 10-14, Abramson does not specifically disclose a memory manager for configuring a new memory channel for an isochronous process includes checking channel and memory availability and return a completion message and memory channel number to the requesting entity. However, in order to setup a new memory channel these processes are necessary. Kwon explicitly discloses these processes (see figures 1-3; abstract; col. 1, lines 11-63; col. 2, line 55-col. 3, line 44). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the memory manager as taught by Kwon in the system of Abramson so that channels can be setup or cancelled and storing data in the memory can be managed.

Regarding claims 15-17, Abramson discloses memory controller for controlling send and receive operations so that data can be sent/received to/from input-output/system buses and controlling the storing of data in the memory (see controller 105 of figure 1; col. 2, lines 50-67). Abramson's system also includes an arbitor (see 215 of figure 2 and 385 of figure 3). Kwon also discloses memory controller and arbitor for controlling memory access (see figures 4 & 5).

Regarding claims 21-25 and 27-37, claims 21-25 and 27-37 are method claims that have substantially all the limitations of the respective apparatus claims 1-5 and 7-17. Therefore, they are subject to the same rejection.

Regarding claim 26, claim 26 is a method claim that has substantially all the limitations of the respective apparatus claim 6. Therefore, it is subject to the same rejection.

Regarding claims 41-44, Abramson discloses the memory includes a random access memory and configured to include isochronous memory that operates as a FIFO and a system bus includes an asynchronous bus and an isochronous bus (see figures 1 & 2; col. 2, lines 50-67; and col. 3, lines 34-49).

Regarding claims 45-46, Abramson discloses asynchronous and isochronous indicator and storing isochronous information in the isochronous memory (see figures 2 and 3 where separate memories are used to store isochronous and asynchronous information).

Regarding claims 47-49, Abramson does not specifically disclose read/write operations. However, Kwon discloses these operations (see figure 4). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform read and write operation as taught by Kwon in the system of Abramson so that information can be read and written to the memory.

Regarding claims 50 and 51, claims 50 and 51 are program instructions and means plus function claims that broaden the scope of the claim 1 by eliminating some limitation of claim 1. Therefore, they are subject to the same rejection.

4. Claims 18-20 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abramson et al (6,192,428) in view of Christensen et al (6,072,796).

Regarding claims 18-20, Abramson discloses a system (100) for implementing an electronic device comprising a transmission source configured to provide priority information include isochronous data (see 225 of figure 2; col. 3, line 44) for use by the device; a memory device for storing priority information, the memory include a memory controller one or more memory channel, and memory registers (see abstract; 230 & 225 of figure 2; 320, 330, 325 of figure 3); and a processor for utilizing the priority information (see 105 & 120 of figure 1; 225 of figure 2; col. 3, lines 34-49). Abramson does not specifically disclose different modes such as FIFO and random-access mode. However, Christensen discloses a memory system that operating in both FIFO mode and random-access mode (see col. 9, lines 25-33). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the FIFO and random-access modes as taught by Christensen in the system of Abramson so that different mode of operation can be used in order to improve system flexibility.

Regarding claims 38-40, claims 38-40 are method claims that have substantially all the limitations of the respective apparatus claims 18-20. Therefore, they are subject to the same rejection.

Response to Arguments

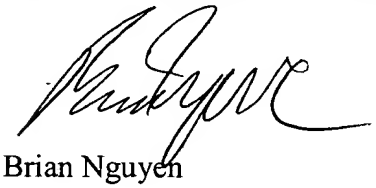
5. Applicant's arguments with respect to claims 1-51 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D Nguyen whose telephone number is (703) 305-5133. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.



Brian Nguyen